CLAIMS

1. An optical fiber link **(300)** comprising a plurality of optical fiber spans (**305**$_{(k-1)}$, **305**$_{k}$, **305**$_{(k+1)}$, **305**$_{(k+2)}$, **305**$_{(k+3)}$, **305**$_{(k+4)}$, **305**$_{(k+5)}$, **305**$_{(k+6)}$) joined one to the other,

characterized in that

said plurality of optical fiber spans includes at least one first unidirectionally-spun optical fiber span (**305**$_{(k-1)}$, **305**$_{(k+1)}$, **305**$_{(k+3)}$, **305**$_{(k+5)}$) and at least one second unidirectionally-spun optical fiber span (**305**$_{k}$, **305**$_{(k+2)}$, **305**$_{(k+4)}$, **305**$_{(k+6)}$) having mutually opposite spinning directions.

2. The optical fiber link according to claim 1, in which the first unidirectionally-spun optical fiber span and the second unidirectionally-spun optical fiber span are joined to each other.

3. The optical fiber link according to claim 1, in which said plurality of optical fiber spans includes a plurality of first optical fiber spans, and a plurality of second optical fiber spans, the first optical fiber spans and the second optical fiber spans being spans of unidirectionally spun optical fibers having mutually opposite spinning directions, and wherein the first optical fiber spans and the second optical fiber spans are alternated to each other in the optical fiber link.

4. The optical fiber link according to claim 1, in which the first unidirectionally-spun optical fiber span and the second unidirectionally-spun optical fiber span have substantially a same span length.

5. The optical fiber link according to claim 1, in which each of said first and second unidirectionally-spun optical fiber spans have a span length, a spinning period p, a correlation length L_F and a beat length L_B, and said span length is lower than 10 times the transient characteristic length L_T defined as

$$L_T = L_F\left(1+\frac{4L_B^2}{p^2}\right).$$

6. The optical fiber link according to claim 4 or 5, in which said span length is equal to or lower than approximately 3 Km.

7. The optical fiber link according to claim 6, in which said span length is equal to or lower than approximately 1 Km.

8. The optical fiber link according to claim 1, in which the first unidirectionally-spun optical fiber span and the second unidirectionally-spun optical fiber span have substantially a same spin rate.

9. The optical fiber link according to claim 3, in which the number of first optical fiber spans and second optical fiber spans is odd.

10. An optical cable line **(80)** including a plurality of optical cable trunks **($805_{(k-1)}$, 805_k, $805_{(k+1)}$, $805_{(k+2)}$, $805_{(k+3)}$, $805_{(k+4)}$)** joined to each other, characterized in that said plurality of optical cable trunks comprises at least a first optical cable trunk and a second optical cable trunk, the first optical cable trunk including a first optical

fiber span (**305**$_{(k-1)}$, **305**$_{(k+1)}$, **305**$_{(k+3)}$, **305**$_{(k+5)}$) unidirectionally-spun in a first direction, and the second optical cable trunk including a second optical fiber span (**305**$_{k}$, **305**$_{(k+2)}$, **305**$_{(k+4)}$, **305**$_{(k+6)}$) unidirectionally-spun in a second direction opposite to the first direction, the first and the second optical fiber spans being optically linked to each other.

11. The optical cable line according to claim 10, in which the first and the second optical fiber spans are joined to each other.

12. The optical cable line according to claim 10, in which the first and the second optical fiber spans have substantially a same span length.

13. The optical cable line according to claim 10, in which each of said first and second optical fiber spans have a span length, a spinning period p, a correlation length L_F and a beat length L_B, and said span length is lower than about 10 times the transient characteristic length L_T defined as

$$L_T = L_F\left(1+\frac{4L_B^2}{p^2}\right).$$

14. The optical fiber link according to claim 12 or 13, in which said span length is equal to or lower than approximately 3 Km.

15. The optical fiber link according to claim 14, in which said span length is equal to or lower than approximately 1 Km.

16. The optical cable line according to claim 10, in which the first and the second optical fiber spans have substantially a same spin rate.

17. The optical cable line according to claim 10, in which the plurality of optical cable trunks include a plurality of first optical fiber spans (**305**$_{(k-1)}$, **305**$_{(k+1)}$, **305**$_{(k+3)}$, **305**$_{(k+5)}$), and a plurality of second optical fiber spans (**305**$_{k}$, **305**$_{(k+2)}$, **305**$_{(k+4)}$, **305**$_{(k+6)}$) joined to each other to form an optical fiber link (**800**), the first optical fiber spans and the second optical fiber spans being unidirectionally-spun optical fibers having mutually opposite spin directions, and wherein the first optical fiber spans and the second optical fiber spans are alternated to each other in the optical fiber link.

18. The optical cable line according to claim 10, in which at least one optical cable trunk of said plurality of optical cable trunks has an optical core including a plurality of unidirectionally-spun optical fiber spans having a same spin direction.

19. The optical cable line according to claim 10, in which at least one optical cable trunk of said plurality of optical cable trunks has an optical core including at least two unidirectionally-spun optical fiber spans having opposite spin directions.

20. The optical cable line according to claim 10, in which the total number of optical cable trunks is odd.

21. A method of realizing an optical fiber link (**300**), comprising:

providing at least a first span of optical fiber (**305**$_{(k-1)}$, **305**$_{(k+1)}$, **305**$_{(k+3)}$, **305**$_{(k+5)}$), unidirectionally-spun in a first direction;

providing at least a second span of optical fiber (**305**$_k$, **305**$_{(k+2)}$, **305**$_{(k+4)}$, **305**$_{(k+6)}$), unidirectionally-spun in a second direction opposite to the first direction; and

joining the first span and the second span together at a respective end thereof.

22. A method of producing an optical cable, comprising providing a plurality of optical fibers to a cable manufacturing line, wherein said plurality of optical fibers comprises at least a first optical fiber (**305**$_{(k-1)}$, **305**$_{(k+1)}$, **305**$_{(k+3)}$, **305**$_{(k+5)}$) being unidirectionally-spun in a first direction, and at least a second optical fiber (**305**$_k$, **305**$_{(k+2)}$, **305**$_{(k+4)}$, **305**$_{(k+6)}$) being unidirectionally-spun in a second direction opposite to the first direction.

23. A method of realizing an optical cable line, comprising:

forming a plurality of optical cable trunks (**805**$_k$, ..., **805**$_{(k+4)}$), each one including at least one optical fiber span (**305**$_{(k-1)}$, ..., **305**$_{(k+6)}$); and

joining the optical cable trunks one to another;

characterized in that

the step of forming a plurality of optical cable trunks comprises forming at least one first trunk including a first optical fiber span (**305**$_{(k-1)}$, **305**$_{(k+1)}$, **305**$_{(k+3)}$, **305**$_{(k+5)}$) unidirectionally-spun in a first direction, and forming at least one second trunk including a second optical fiber span (**305**$_k$, **305**$_{(k+2)}$, **305**$_{(k+4)}$, **305**$_{(k+6)}$) unidirectionally-spun in a second direction opposite to the first direction, and in that said joining the optical cable trunks one to another

includes optically linking the first optical fiber span to said second optical fiber span.